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PATENT APPLICATION
Mo-6021
WW-5562

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF	
HARTWIG SCHLESIGER ET AL	GROUP NO.: 1614
SERIAL NUMBER: 09/785,905	EXAMINER: DWAYNE C. JONES
FILED: FEBRUARY 16, 2001	RESPONSE TO EXAMINER'S ANSWER
TITLE: A PROCESS FOR PRODUCING PARTICULATE, WATER-SOLUBLE CELLULOSE DERIVATIVES USING A SUPERHEATED GAS MIXTURE CONTAINING STEAM	

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The present Reply Brief is being filed in response to the Examiner's Answer dated March 31, 2005.

Remarks/Arguments begin on page 2 of this paper.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an enveloped addressed to: Commissioner for Patents, Alexandria, VA 22313-1450 5/25/05
Date

James R. Franks - Reg. No. 42,552
Name of applicant, assignee or Registered Representative

Signature

May 25, 2005
Date

REMARKS

Claims in the case are 1-8 as summarized and described in Appellants' Appeal Brief of 22 February 2005.

Appellants wish to stress that in the method of their claims, after contact between the feed composition of cellulose derivative and water and the superheated gas mixture of steam and inert gas or steam and air, the gas mixture that was initially contacted with the cellulose derivative and water composition is still superheated (i.e., it is still a superheated gas mixture). In particular, attention is directed to step (c) of Appellants' present Claim 1, in which the particulate cellulose derivative (that is formed from contact with the superheated gas mixture) is separated from the superheated gas mixture. The particulate cellulose derivative of Appellants' process is not separated from a mere vapor, but rather from a superheated gas mixture of steam and inert gas or steam and air.

The references of the obviousness rejection, WO 98/31710 (**Weber et al**) and UK Patent Application No. GB 2,262,527 A (**Bujara et al**), either alone or in combination, do not disclose, teach or suggest a process in which a superheated gas mixture of steam and inert gas or steam and air that is initially contacted with a composition of cellulose derivative and water, is still in the form of a superheated gas mixture after such contact. Further, Weber et al and Bujara et al, either alone or in combination, do not disclose, teach or suggest a process that involves the step of separating a particulate cellulose derivative from a superheated gas mixture.

It is argued in the Examiner's Answer of 31 March 2005 that Weber et al disclose converting the solvent or mixed solvent, of the polysaccharide and solvent / mixed solvent composition, into the vapor phase. Appellants respectfully submit, however that without more, such disclosure by Weber et al does not reasonably represent or suggest the formation of a superheated gas therefrom. At most, it represents the formation of a vapor phase, which in the absence of a further teaching or disclosure is merely a vapor, and would not be interpreted by a skilled artisan to represent a disclosure, teaching or suggestion as to the formation of a superheated gas.

In addition, Appellants wish to stress that Weber et al discloses only the use of superheated steam that is composed of 100 % water or other solvent (i.e., in the absence of an inert gas or air). Weber et al do not disclose, teach or remotely suggest the use of a superheated mixture of: (i) steam (or other solvent); and (ii) inert gas or air.

It is further argued in the Examiner's Answer of 31 March 2005 that Bujara et al disclose the formation of superheated water vapor in Example 1 at page 12 thereof. Appellants respectfully disagree, and wish to point out that a mere recitation of temperature alone without more does not suggest the formation of superheated water vapor. In particular, in the absence of a recited heat capacity of the material that is contacted with the heated air, the disclosure of Bujara et al does not amount to a disclosure, teaching or suggestion as to the formation of superheated water vapor from such contact. Regardless, the method of Bujara et al (including their Example 1) involves the contact of *heated air* with a composition of cooled and gelled cellulose and water. Bujara et al does not disclose, teach or suggest the use of a superheated gas mixture of steam and inert gas or steam and air. As such, the disclosure of Bujara et al does not reach or reasonably touch upon the method of Appellants' present claims.

Bujara et al provide no disclosure or suggestion as to the exit temperature of devices (e.g., mills such as the one used in their Example 1) that are used to grind cellulose compounds. In the absence of such disclosure, Bujara et al does not reasonably provide a suggestion or teaching with regard to the formation of superheated water vapor after contact of the heated air with a composition of cooled and gelled cellulose and water. Regarding Example 1 of Bujara et al, Appellants estimate that to achieve a product having a residual water content of 3 %, the temperature of the air stream exiting the mill would be at most 75°C, which clearly is not superheated.

Appellants wish to further point out that the water content of the air stream exiting the mill in Example 1 of Bujara et al would be less than 40 percent by weight (i.e., lower than the lower limit of the range of Appellants' present claims). In Example 1 of Bujara et al, hydroxypropyl methyl cellulose (HPMC) having an initial water content of 45 percent is dried with 25 m^3 per Kg of dry HPMC. If 1 kg of the

HPMC of Bujara et al's Example 1 were completely dried (i.e., to form a material having a residual water content of 0%), then 450 g of water would be evaporated into 16.25 m^3 air (25 x 0.64). Air has a density of 1.293 Kg/m^3, as such 16.25 m^3 air corresponds to 21.04 Kg air. Thus, the maximum possible water content of the air stream exiting the mill of Bujara et al's Example 1 would be **2.14 %** (0.45 Kg water / 21.04 Kg air). A water vapor content of 2.14 % is substantially less than and clearly outside of the steam content of the superheated gas mixture of Appellants' presently claimed process, which is 40 wt. % to 99 wt. %, based on the total weight of the superheated gas mixture.

In their Appeal Brief, Appellants have argued that neither Weber et al nor Bujara et al disclose re-heating the co-product vapors that are formed from the processes that they respectively disclose. Appellants' argument in this regard was presented for purposes of stressing and emphasizing that neither Weber et al nor Bujara et al disclose or suggest the formation of a superheated gas after contact between either a superheated vapor, such as superheated steam (in the case of Weber et al) or heated air (in the case of Bujara et al) with a composition of cellulose and water. As discussed in their Appeal Brief and previously herein, Weber et al and Bujara et al at most disclose the formation of a vapor after such contact, but not a superheated vapor.

Appellants submit that their previous arguments that refer Weber et al disclosing the use of a superheated vapor such as superheated steam is not deemed to represent an admission that Weber et al disclose or suggest the use of a superheated mixture of steam and inert gas or steam and air. Weber et al disclose the use of a superheated vapor, such as superheated steam, which without more does not represent a teaching or suggestion as to a superheated gaseous mixture of steam and inert gas or steam and air.

In light of the reasons discussed herein and those discussed at length in their Appeal Brief, Appellants maintain their position that the Examiner's rejections are improper. Appellants respectfully request that these rejections be reversed, and that Claims 1-8 be allowed.

Respectfully submitted,

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